

## ABSTRACT

In the present scalable system routing method, received packets are associating with threads for processing the received packets. While a previously received packet is being processed, arrival of an interrupt is checked. If there is an interrupt, a thread is created associating the interrupt is created. Then, a determination of whether the thread associated with the interrupt has a priority that is higher than the priority of a thread associated with the previously received packet is made. If the thread associated with the interrupt has a higher priority than the previously received packet, the thread associated with the previously received packet is saved in a Shared Arena storage area. However, if the thread associated with the interrupt does not have a higher priority than the previously received packet, the thread associated with the interrupt is queued. Because threads are attached to the packets, the threads can now be suspended and resumed without having to disable interrupts, which includes periods during a context switch. As a result, a more flexible and efficient scheduling routing method can be implemented.